

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

US EPA RECORDS CENTER REGION 5



448859

Chemical Name Arsenic Date _____

DOT Classification _____ Job Number _____

CAS Number 7440-38-2

REFERENCES CONSULTED (circle; also include MSDS if appropriate.)

NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich
BTECS other: Casarett & Doull's Toxicology, Carcinogen Report-NTP83-010

CHEMICAL PROPERTIES: (Synonyms: Arsenicals, metallic arsenic, colloidal As)

Chemical Formula As MW 74.9 Ionization Potential N/A
Physical State black solid Boiling Point sublim Freezing Point _____
Flash Point N/A Flammable Limits N/A Vapor Pressure 5.7
Specific Gravity/Density N/A Odor/Odor Threshold odorless

Solubility-water: Insoluble Solubility-other: nitric acid
Incompatibilities & Reactivity: halogens, oxidizers, zinc, bromine azide, air

TOXICOLOGICAL PROPERTIES:

Exposure Limits: TLV-TWA (ACGIH) 0.2 mg/m³ PEL (OSHA) 10 ug/m³
STEL none Ceiling Limits 2ug/m³/15min IDLH carcinogen

Toxicity Data: (Indicate duration of study)

Human; IHL _____ Dermal _____ Oral Tdlo 7857mg/kg/55Y
Rat/Mouse; IHL _____ Dermal _____ Oral Tdlo 605ug/kg
Aquatic: none establ. Other: _____

Carcinogen human-pos Mutagen exper. Reproductive Toxin exper.

Route(s) of exposure - (circle all that apply): Inhalation Ingestion

Dermal Contact Eye(ocular) Dermal Absorption _____ Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)

Respirators: <100ug/m³ use APR, >100ug/m³ use SCBA
Protective Clothing: rec. - viton, butyl, vinyl, nitrile, neoprene.
Special Equipment: _____

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)

Disposal P Fire 11,13 Leaks & Spills 4,6,7,8,9
Decomposition Products: toxic fumes of arsenic oxides.

FIRST AID:

ING: Get medical attention immediately.
IHL: Remove to fresh air, artificial resp. if needed, medical attent.
Eye/Skin: Flush/rinse with large amounts of water for at least 15 min.

SYMPTOMS:

acute(immediate) exposure effects: ING-stomach disturbances, burning/dry oral cavities, vomiting, severe fluid loss, muscle spasms, coma. IHL-cough, chest pain, headache, weakness, perforation of nasal septum, irritation of respiratory tract. possible skin irritation.

chronic(long term) exposure effects: IHL-industrial chronic poisoning: fatigue, weakness, loss of appetite, nausea, diarrhea, hoarseness, upper resp. mucosa irritation, advanced stages see nerve problems in extremities. Liver damage, lung cancer, skin cancer also may result.

reproductive effects: none specified in humans.

12/86

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Chromium (metal) Date _____

DOT Classification _____ Job Number _____

CAS Number 7440-47-3

REFERENCES CONSULTED (circle; also include MSDS if appropriate.)

NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)

ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich

RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: Chromium metal, insoluble salts)

Chemical Formula Cr MW 52 Ionization Potential N/A

Physical State variable Boiling Point 4842° F Freezing Point 3339° F

Flash Point variable Flammable Limits LEL-.23% Vapor Pressure variable

Specific Gravity/Density 7.2@82° F Odor/Odor Threshold none

Solubility-water: Insoluble Solubility-other: _____

Incompatibilities & Reactivity: strong oxidizers, powdered metal is explosive

TOXICOLOGICAL PROPERTIES:

Exposure Limits: TLV-TWA (ACGIH) 0.5 mg/m³ PEL (OSHA) 1.0 mg/m³

STEL none est. Ceiling Limits none est. IDLH 500 mg/m³

Toxicity Data: (Indicate duration of study)

Human; IHL _____ Dermal _____ Oral _____

Rat/Mouse; IHL _____ Dermal _____ Oral _____

Aquatic: _____ Other: _____

Carcinogen N/A Mutagen N/A Reproductive Toxin N/A

Route(s) of exposure - (circle all that apply): Inhalation Ingestion

Dermal Contact Eye(ocular) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)

Respirators: 5 mg/m³ - SCBA

Protective Clothing: Prevent skin/eye contact.

Special Equipment: Wear impervious clothing.

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)

Disposal P.O Fire 13 Leaks&Spills 3,4,6,7,8,9

Decomposition Products: _____

FIRST AID:

ING: Large amounts of water, induce vomiting, medical attent. immed.

IHL: Move to fresh air, artificial resp. if necessary, medical atten.

Eye/Skin: Irrigate/rinse with large amounts of water. Wash skin thoroughly with soap & water.

SYMPTOMS:

acute(immediate) exposure effects: Contact dermatitis, ulceration of skin & nasal mucosa, irritation of eyes & mucous membranes.

chronic(long term) exposure effects: Not often encountered with the 3+ state since chromium compounds in this state are of a lower order toxicity.

reproductive effects: None specified for humans.

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Lead Date

DOT Classification Job Number

CAS Number 7439-92-1

REFERENCES CONSULTED (circle; also include MSDS if appropriate.)

NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich
RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: White lead, plumbum)

Chemical Formula Pb MW 207 Ionization Potential N/A
Physical State Variable Boiling Point 3164° F Freezing Point
Flash Point Incombust. Flammable Limits Incombust Vapor Pressure variable
Specific Gravity/Density 11.3 @61° F Odor/ Odor Threshold None
Solubility-water: Insoluble Solubility-other:
Incompatibilities & Reactivity: Strong oxidizers, peroxides, active metals

TOXICOLOGICAL PROPERTIES:

Exposure Limits: TLV-TWA (ACGIH) .15 mg/m³ PEL (OSHA) 50ug/m³
STEL None est. Ceiling Limits None est. IDLH Variable
Toxicity Data: (Indicate duration of study)
Human; IHL Dermal Oral Td10 450mg/kg/6Y
Rat/Mouse; IHL Dermal Oral Tdlo 790mg/kg
Aquatic: Unknown Other: Toxicity varies with lead cpds.
Carcinogen Indef. Mutagen Indef Reproductive Toxin exp. teratogen
Route(s) of exposure - (circle all that apply): Inhalation Ingestion
Dermal Contact Eye (ocular) Dermal Absorption Other

HANDLING RECOMMENDATIONS: (personal protective measures)

Respirators: 5mg/m³ high efficiency particulate respirator, other
concentrations - SCBA.
Protective Clothing: Avoid skin and eye contact
Special Equipment: None

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)

Disposal P Fire 13 Leaks & Spills 7, 8, 10
Decomposition Products: Toxic fumes of lead

FIRST AID:

ING: Give water, induce vomiting, medical attention immed.
IHL: Move to fresh air, artificial resp. if necessary, medical attent.
Eye/Skin: Irrigate/wash with water. Wash skin thoroughly with soap & water.

SYMPTOMS:

acute(immediate) exposure effects: Cumulative neurotoxin-commonly occurs from prolonged exposure. Symptoms include stomach distress, vomiting, diarrhea, black stools, anemia, nervous system effects.
chronic(long term) exposure effects: 3 clinical types: a-ailmentary-abominal pain, discomfort, constipation or diarrhea, metallic taste, lead line on gum
adache. b-nueromuscular, muscle weakness, joint/muscle pain, dizziness, insomnia, paralysis c-encephalic: brain involvement, stupor, coma, death, rare.
reproductive effects: Human epid. studies have concluded that lead is a poison to male & female germ cells; increased incidence of miscarriages, stillbirths, sterility in females; sperm depression & decreased motiltiy in males